

A. AMENDMENTS TO CLAIMS

Please amend the claims as indicated hereinafter.

1. (CURRENTLY AMENDED) A communications receiver comprising:
a time domain equalizer;
a frequency domain equalizer; and
an update mechanism configured to update both the time domain equalizer and the frequency domain equalizer based upon performance of a communications channel from which the communications receiver receives data, wherein updating the time domain equalizer includes
causing the time domain equalizer to operate with a first set of coefficients,
determining first performance data that reflects performance of the time domain equalizer when the time domain equalizer is operating with the a first set of coefficients,
changing the coefficients used by the time domain equalizer so that the time domain equalizer operates with a second set of coefficients,
determining second performance data that reflects performance of the time domain equalizer when the time domain equalizer is operating with the a second set of coefficients,
selecting for use by the time domain equalizer, based upon the first performance data and the second performance data, either the first set of coefficients or the second set of coefficients,
if the first set of coefficients is selected for use, then changing the coefficients used by the time domain equalizer so that the time domain equalizer operates with the first set of coefficients, and
if the second set of coefficients is selected for use, then causing the time domain equalizer to continue to operate with the second set of coefficients. and
~~causing the time domain equalizer to use the selected set of coefficients.~~
2. (CANCELED)

3. (PREVIOUSLY PRESENTED) The communications receiver as recited in Claim 1, wherein the update mechanism is further configured to determine the first and second performance data based upon synchronization symbols received by the communications receiver.
- 4-7. (CANCELED)
8. (ORIGINAL) The communications receiver as recited in Claim 1, wherein the communications receiver is a digital subscriber line communications receiver.
9. (ORIGINAL) The communications receiver as recited in Claim 1, wherein the communications receiver is part of a discrete multitone communications system.
10. (CURRENTLY AMENDED) An update mechanism configured to:
update both a time domain equalizer and a frequency domain equalizer in a communications receiver based upon performance of a communications channel from which the communications receiver receives data, wherein updating the time domain equalizer includes
causing the time domain equalizer to operate with a first set of coefficients,
determining first performance data that reflects performance of the time domain equalizer when the time domain equalizer is operating with the a-first set of coefficients,
changing the coefficients used by the time domain equalizer so that the time domain equalizer operates with a second set of coefficients,
determining second performance data that reflects performance of the time domain equalizer when the time domain equalizer is operating with the a second set of coefficients,
selecting for use by the time domain equalizer, based upon the first performance data and the second performance data , either the first set of coefficients or the second set of coefficients,
if the first set of coefficients is selected for use, then changing the coefficients used by the time domain equalizer so that the time domain equalizer operates with the first set of coefficients, and

if the second set of coefficients is selected for use, then causing the time domain equalizer to continue to operate with the second set of coefficients. ~~and causing the time domain equalizer to use the selected set of coefficients.~~

11. (CANCELED)
12. (PREVIOUSLY PRESENTED) The update mechanism as recited in Claim 10, wherein the update mechanism is further configured to determine the first and second performance data based upon synchronization symbols received by the communications receiver.
- 13-16. (CANCELED)
17. (ORIGINAL) The update mechanism as recited in Claim 10, wherein the communications receiver is a digital subscriber line communications receiver.
18. (ORIGINAL) The update mechanism as recited in Claim 10, wherein the communications receiver is part of a discrete multitone communications system.
19. (CURRENTLY AMENDED) A method for configuring a communications receiver comprising:
updating both a time domain equalizer and a frequency domain equalizer contained in the communications receiver based upon performance of a communications channel from which the communications receiver receives data, wherein updating the time domain equalizer includes
causing the time domain equalizer to operate with a first set of coefficients,
determining first performance data that reflects performance of the time domain equalizer when the time domain equalizer is operating with the ~~a~~ first set of coefficients,
changing the coefficients used by the time domain equalizer so that the time domain equalizer operates with a second set of coefficients,

determining second performance data that reflects performance of the time domain equalizer when the time domain equalizer is operating with the a second set of coefficients,
 selecting for use by the time domain equalizer, based upon the first performance data and the second performance data , either the first set of coefficients or the second set of coefficients,
if the first set of coefficients is selected for use, then changing the coefficients used by the time domain equalizer so that the time domain equalizer operates with the first set of coefficients, and
if the second set of coefficients is selected for use, then causing the time domain equalizer to continue to operate with the second set of coefficients. and
~~causing the time domain equalizer to use the selected set of coefficients.~~

20. (CANCELED)

21. (PREVIOUSLY PRESENTED) The method as recited in Claim 19, further comprising determining the first and second performance data based upon synchronization symbols received by the communications receiver.

22-25. (CANCELED)

26. (ORIGINAL) The method as recited in Claim 19, wherein the communications receiver is a digital subscriber line communications receiver.

27. (ORIGINAL) The method as recited in Claim 19, wherein the communications receiver is part of a discrete multitone communications system.

28. (CURRENTLY AMENDED) A computer-readable medium for configuring a communications receiver, the computer-readable medium carrying instructions which, when processed by one or more processors, cause:
 updating both a time domain equalizer and a frequency domain equalizer contained in the communications receiver based upon performance of a communications channel

from which the communications receiver receives data, wherein updating the time domain equalizer includes

causing the time domain equalizer to operate with a first set of coefficients,

determining first performance data that reflects performance of the time domain equalizer when the time domain equalizer is operating with the a-first set of coefficients,

changing the coefficients used by the time domain equalizer so that the time domain equalizer operates with a second set of coefficients,

determining second performance data that reflects performance of the time domain equalizer when the time domain equalizer is operating with the a second set of coefficients,

selecting for use by the time domain equalizer, based upon the first performance data and the second performance data , either the first set of coefficients or the second set of coefficients,

if the first set of coefficients is selected for use, then changing the coefficients used by the time domain equalizer so that the time domain equalizer operates with the first set of coefficients, and

if the second set of coefficients is selected for use, then causing the time domain equalizer to continue to operate with the second set of coefficients. and

~~causing the time domain equalizer to use the selected set of coefficients.~~

29. (CANCELED)

30. (PREVIOUSLY PRESENTED) The computer-readable medium as recited in Claim 28, further comprising one or more additional instructions which, when processed by the one or more processors, cause determining the first and second performance data based upon synchronization symbols received by the communications receiver.

31-34. (CANCELED)

35. (ORIGINAL) The computer-readable medium as recited in Claim 28, wherein the communications receiver is a digital subscriber line communications receiver.

36. (ORIGINAL) The computer-readable medium as recited in Claim 28, wherein the communications receiver is part of a discrete multitone communications system.

37-56. (CANCELED)

57. (PREVIOUSLY PRESENTED) The communications receiver as recited in Claim 1, wherein:

the first performance data reflects one or more signal to noise ratios of data received by the communications receiver when the time domain equalizer is operating with the first set of coefficients; and

the second performance data reflects one or more signal to noise ratios of data received by the communications receiver when the time domain equalizer is operating with the second set of coefficients.

58. (PREVIOUSLY PRESENTED) The communications receiver as recited in Claim 1, wherein:

the communications receiver uses an initial bit allocation; and

the update mechanism is further configured to

determine an updated bit allocation based upon the first and second performance data, and

cause the communications receiver to use the updated bit allocation.

59. (PREVIOUSLY PRESENTED) The communications receiver as recited in Claim 1, wherein the update mechanism is further configured to perform gain adjustments on tones based upon the first and second performance data.

60. (PREVIOUSLY PRESENTED) The update mechanism as recited in Claim 10, wherein: the first performance data reflects one or more signal to noise ratios of data received by the communications receiver when the time domain equalizer is operating with the first set of coefficients; and

the second performance data reflects one or more signal to noise ratios of data received by the communications receiver when the time domain equalizer is operating with the second set of coefficients.

61. (PREVIOUSLY PRESENTED) The update mechanism as recited in Claim 10, wherein:
the communications receiver uses an initial bit allocation; and
the update mechanism is further configured to
determine an updated bit allocation based upon the first and second performance data, and
cause the communications receiver to use the updated bit allocation.
62. (PREVIOUSLY PRESENTED) The update mechanism as recited in Claim 10, wherein
the update mechanism is further configured to perform gain adjustments on tones based upon the first and second performance data.
63. (PREVIOUSLY PRESENTED) The method as recited in Claim 19, wherein:
the first performance data reflects one or more signal to noise ratios of data received by
the communications receiver when the time domain equalizer is operating with
the first set of coefficients; and
the second performance data reflects one or more signal to noise ratios of data received
by the communications receiver when the time domain equalizer is operating with
the second set of coefficients.
64. (PREVIOUSLY PRESENTED) The method as recited in Claim 19, wherein:
the communications receiver uses an initial bit allocation; and
the method further comprises
determining an updated bit allocation based upon the first and second
performance data, and
causing the communications receiver to use the updated bit allocation.

65. (PREVIOUSLY PRESENTED) The method as recited in Claim 19, further comprising performing gain adjustments on tones based upon the first and second performance data.
66. (PREVIOUSLY PRESENTED) The computer-readable medium as recited in Claim 28, wherein:
the first performance data reflects one or more signal to noise ratios of data received by the communications receiver when the time domain equalizer is operating with the first set of coefficients; and
the second performance data reflects one or more signal to noise ratios of data received by the communications receiver when the time domain equalizer is operating with the second set of coefficients.
67. (PREVIOUSLY PRESENTED) The computer-readable medium as recited in Claim 28, wherein:
the communications receiver uses an initial bit allocation; and
the computer-readable medium further comprises one or more additional instructions which, when processed by the one or more processors, causes determining an updated bit allocation based upon the first and second performance data, and
causing the communications receiver to use the updated bit allocation.
68. (PREVIOUSLY PRESENTED) The computer-readable medium as recited in Claim 28, further comprises one or more additional instructions which, when processed by the one or more processors, causes performing gain adjustments on tones based upon the first and second performance data.